

CLAIMS

WHAT IS CLAIMED IS:

5       1. A genetically engineered mammalian cell that has been mutated by a process comprising the insertion of a recombinantly manipulated polynucleotide sequence into a gene in said genetically engineered mammalian cell wherein said gene is identifiable as corresponding to at least one of SEQ ID NOS: 1-248.

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2. The genetically engineered mammalian cell of Claim 1, wherein said cell is murine.

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3. A cell according to Claim 2, wherein said cell is an embryonic stem cell.

20       4. The genetically engineered mammalian cell of Claim 1, wherein said polynucleotide sequence is present on a viral vector.

25       5. A cell according to Claim 4, wherein said viral vector is a retroviral vector.

30       6. A cell according to Claim 4, wherein said viral vector additionally comprises regions of targeting DNA that facilitate gene targeting by homologous recombination.

7. An isolated murine embryonic stem cell line comprising an engineered retroviral gene trap vector in at least one gene comprising a polynucleotide sequence identifiable as corresponding to any one of SEQ ID NOS: 1-248.

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8. A method of generating antibodies against a human protein comprising introducing said human protein into a mouse having a genetically engineered mutation in a murine gene identifiable as corresponding to any one of SEQ ID NOS: 1-248, wherein said mouse produces antibodies against said human protein.